

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 24

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

Ex parte GIAMPIERO MORINI,  
ENRICO ALBIZZATI,  
GIULIO BALBONTIN,  
GIOVANNI BARUZZI,  
and  
ANTONIO CRISTOFORI

MAILED  
FEB 28 2002  
PAT & TM OFFICE  
BOARD OF PATENT APPEALS  
AND INTERFERENCES

Appeal No. 1999-0809  
Application No. 08/603,497

HEARD: FEBRUARY 6, 2002

Before PAK, LIEBERMAN, and PAWLIKOWSKI, Administrative Patent Judges.

LIEBERMAN, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134 from the decision of the examiner refusing to allow claims 1 through 5, 8 through 19, 22 through 29, and claims 6 and 20 as amended subsequent to the final rejection, which are all of the claims pending in this application.

### THE INVENTION

The invention is directed to a solid catalyst for the polymerization of olefins. The catalyst comprises a cyclopolyenic 1,3-diether wherein the carbon atom in the 2 position forms a part of one or more cyclic structures, wherein the cyclic structure contains two or three unsaturated moieties. Additional limitations are disclosed in the following illustrative claim.

### THE CLAIM

Claim 1 is illustrative of appellants' invention and is reproduced below:

1. A solid catalyst component for the polymerization of olefins, comprising a magnesium halide in active form, and, supported thereon, a titanium compound containing at least one Ti-halogen bond and a cyclopolyenic 1,3-diether in which the carbon atom in position 2 belongs to a cyclic or polycyclic structure made up of 5, 6, or 7 carbon atoms, or 5-n or 6-n' carbon atoms, and respectively n atoms of nitrogen and n' heteroatoms selected from the group consisting of O, S and Si, where n is 1 or 2 and n' is 1, 2 or 3, said structure containing two or three unsaturations and optionally being condensed with other cyclic structures, or substituted with one or more substituents selected from the group consisting of linear or branched alkyl radicals; cycloalkyl, aryl, aralkyl, alkaryl radicals and halogens, or being condensed with other cyclic structures and substituted with one or more of the above mentioned substituents which can also be bonded to the condensed cyclic structures; one or more of the above mentioned alkyl, cycloalkyl, aryl, aralkyl or alkaryl radicals and the condensed cyclic structures optionally containing one or more heteroatoms as substitutes for carbon or hydrogen atoms, or both.

### THE REFERENCES OF RECORD

As evidence of obviousness, the examiner relies upon the following references:

Barbé et al. (Barbé)	4,978,648	Dec. 18, 1990
Albizzati et al. (Albizzati '213)	5,068,213	Nov. 26, 1991
Albizzati et al. (Albizzati '492)	5,122,492	Jun. 16, 1992

Denko  
(published Japanese Patent Application)

2-242804

Sep. 27, 1990

### THE REJECTION

Claims 1 through 6, 8 through 20 and 22 through 29 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Albizatti '492, Albizatti '213 and Barbé in combination or all in view of Denko.

### OPINION

We have carefully considered all of the arguments advanced by the appellants and the examiner and agree with the examiner that the rejection of claims 1 through 6, 8 through 20 and 22 through 29 is well founded. Accordingly, we affirm the examiner's rejection.

As an initial matter the appellants have stated that "[t]he claims do not stand or fall together because dependent claims 7 and 21 have been allowed." See Brief, page 4. No arguments, however, are present for any of the other remaining claims. Accordingly, we select claim 1 as representative of the claimed subject matter and limit our consideration thereto. See 37 CFR §1.192(c)(7)(1997).

### The Rejection under § 103

Our initial inquiry is directed to the scope of the claimed subject matter. During patent prosecution, claims are to be given their broadest reasonable interpretation consistent with the specification, and the claim language is to be read in view of the specification as it would be interpreted by one of ordinary skill in the art. In re Morris,

127 F.3d 1048, 1053-54, 44 USPQ2d 1023, 1027 (Fed. Cir. 1997); In re Zletz, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989); In re Sneed, 710 F.2d 1544, 1548, 218 USPQ 385, 388 (Fed. Cir. 1983); In re Okuzawa, 537 F.2d 545, 548, 190 USPQ 464, 466 (CCPA 1976).

Our construction of the subject matter defined by appellants' claim 1 is directed to the scope of the language cyclopenic 1,3-diether "optionally condensed with other cyclic structures." The issue at hand is whether the language of claim 1 requires that the ether groups be attached solely to a cyclopenic moiety containing 2 or 3 unsaturated groups or includes a polycyclic moiety having two or three unsaturated groups in at least one moiety fused to at least a second saturated moiety wherein the ether groups may be attached to the saturated cyclic moiety.

We find that both the specification and claimed subject matter are directed to specially preferred compounds designated as fluorenes wherein two benzene rings are fused with a saturated cyclopentyl moiety there between. We find that a single unattached carbon is present on the cyclopentyl moiety having two hydrogens attached thereto. We find that this position is designated as the 9 carbon. We find that twelve specific examples are designated on page 11 of the specification wherein each of two methoxymethyl moieties is attached to each of the 9 positions. We further find that Examples 1 through 4 are directed to fluorenes substituted in both 9 positions. We find that twelve examples of 9,9-substituted fluorenes appear in claim 5. Based upon the above findings, we interpret claim 1 as reading on polycyclic components wherein methoxy methyl or other ether groups may

be attached to a cyclopenic moiety in which the 2 position is part of a cyclic structure which is in and of itself saturated but fused to other rings, at least one of the other rings containing two or three unsaturated groups.

Based upon this interpretation, we are generally in agreement with the examiner's interpretation that Albizatti '213 describes a 1,3-diether as an external electron donor wherein the description at column 2, lines 3-8 and 54-60 describes a ring, "formed from bonding the X and the Y radicals [which] can be unsaturated." See Answer page 3.

Specifically, we find that Albizatti '213 is directed to a catalyst for the polymerization of olefins. See column 1, lines 5-9. The invention of Albizatti is directed to a new class of ethers which is suited for the preparation of highly active and stereo specific catalysts for the polymerization of olefins. See column 1, lines 56-59. We find that the ethers are disclosed at column 2, line 3 to column 5, line 66. We find that the ethers may contain at least one double bond. See column 2, line 6. We further find that, "X and Y moreover can be bonded together to form an  $R^{VI}$  hydrocarbon radical having 1-18 carbon atoms." See column 2, lines 54-55. It is the examiner's position that this recitation along with that at column 2, lines 3-8 suggests that the ring could have a plurality of double bonds. See Answer, page 3. We further find that these compounds are exemplified by 1,3-diethers having phenyl moieties on the 2 position. See for example column 5, lines 42-43 and 46. We further find that patentee has exemplified the case wherein X and Y together form a hydrocarbon ring. See column 3, lines 28-29 directed to 1,1-bis(methoxymethyl)-6-chloro-tetrahydronaphthalene. This compound in and of

itself is anticipatory of the 1,3-diethers of the claimed subject and in any event is sufficient in and of itself to establish a prima facie case of obviousness with respect to the claimed subject matter in its present scope.

A similar disclosure is found in Albizatti '492. See column 2, line 59 to column 4, line 30. We find that Albizatti '492 is similarly directed to catalyst components for the polymerization of olefins and catalysts obtained therefrom. See column 1, lines 5-7. We find that the ethers may be attached to moieties at the 2 carbon position, which contain aryl groups or partially saturated containing polyenic unsaturation within the scope of the claimed subject matter. See column 2, line 59 to column 3, line 13. Moreover, specific 1,3-diethers are exemplified at column 4, lines 3-7 which include a similar species to that in the previous Albizatti reference, 1,1-dimethoxymethyl-1,2,3,4-tetrahydronaphthalene, as well as 1,1-dimethoxymethylindane and 2,2-dimethoxymethylindane.<sup>1</sup>

The reference to Barbé likewise is directed to catalysts for the polymerization of olefins and discloses 1,3-diethers. See column 1, line 67 to column 3, line 39. Specific 1,3-diethers directed to naphthalene and indane derivatives are also disclosed by Barbé. See column 3, lines 7-10.

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<sup>1</sup>Indane is a 9 membered hydrocarbon having a benzene ring fused to a cyclopentane ring. See Fieser, Organic Chemistry, p. 544 (Boston, MA, D.C. Heath and Co., 1957).

In contrast, the reference to Denko is directed to acetals which are direct to distinct and different functional groups, which constitute 1,1-diethers and provide neither motivation nor a reasonable chance of success for substituting the polyenic unsaturation for that present in the primary references.

In our fact finding, we note that each of the 1,3-diethers exemplified by the references of record are polycyclic in nature, naphthalene containing two fused benzene rings and indane containing a benzene ring fused with a cyclopentane ring. By convention, the numbering on the naphthalene and indane ring system begins with the 1 position on the saturated ring and continues around the saturated ring omitting the bridged carbons which contain no substituents, thereafter continuing around the unsaturated ring. We found supra that each of the ether groups designated as dimethoxymethyl in the references of record were either in the 1,1 or the 2,2 positions. Accordingly, the ether moieties were necessarily located on the ring that was saturated. However, in as much as the exemplified dimethoxymethyl groups in the specification and claims are likewise present on the saturated rings, it is evident that they are sufficient in and of themselves to establish a prima facie case of obviousness with respect to the claimed subject matter.

DECISION

The rejection of claims 1 through 6, 8 through 20 and 22 through 29 under 35 U.S.C. § 103(a) as being unpatentable over Albizatti '492, Albizatti '213 and Barbé alone or in combination is affirmed.

The decision of the examiner is affirmed. In summary, we have affirmed one or more of the examiner's grounds of rejection under § 103. However, because our additional rationale for affirming the grounds of rejection under § 103 materially differs from that of the examiner as we have set forth above, we have designated our affirmance as involving a new ground of rejection pursuant to 37 CFR § 1.196(b)(1997).

This decision contains a new ground of rejection pursuant to 37 CFR § 1.196(b). 37 CFR § 1.196(b) provides that "[a] new ground of rejection shall not be considered final for purposes of judicial review."

37 CFR § 1.196(b) also provides that the appellants, WITHIN TWO MONTHS FROM THE DATE OF THE DECISION, must exercise one of the following two options with respect to the new ground of rejection to avoid termination of proceedings (37 CFR § 1.197(c)) as to the rejected claims:

(1) Submit an appropriate amendment of the claims so rejected or a showing of facts relating to the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the application will be remanded to the examiner . . . .




(2) Request that the application be reheard under § 1.197(b) by the Board of Patent Appeals and Interferences upon the same record . . . .

If the appellants elect prosecution before the examiner and this does not result in allowance of the application, abandonment or a second appeal, this case should be returned to the Board of Patent Appeals and Interferences for final action on the affirmed rejection, including any timely request for rehearing thereof.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED; 37 CFR § 196(b)



CHUNG K. PAK  
Administrative Patent Judge



PAUL LIEBERMAN  
Administrative Patent Judge



BEVERLY A. PAWLIKOWSKI  
Administrative Patent Judge

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